GENERAL VIEW

OF THE

AGRICULTURE

OF THE COUNTY OF

WESTMORELAND,

WITH

OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT.

BY ANDREW PRINGLE.

DRAWN UP FOR THE CONSIDERATION OF THE BOARD OF AGRICULTURE AND INTERNAL IMPROVEMENT.

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ADVERTISEMENT.

THE following communication, reſpecting the preſent ſtate of huſbandry in the county of Weſtmoreland, and the means of its improvement, drawn up for the conſideration of the Board of Agriculture, is now printed, merely for the purpoſe of its being circulated there, in order that every perſon, intereſted in the welfare of that county, may have it in his power to examine it fully before it is publiſhed. It is therefore requeſted, that any remark, or additional obſervation, which may occur to the reader, on the peruſal of the following ſheets, may be tranſmitted to the Board of Agriculture at its office in London, by whom the ſame ſhall be properly attended to; and, when the returns are completed, an account will be drawn up of the ſtate of agriculture in Weſtmoreland, from the information thus accumulated, which, it is believed, will be found greatly ſuperior, to any thing of the kind, ever yet made public.

The Board will probably follow the ſame plan, in regard to all the other counties in the united kingdom; and, it is hardly neceſſary to add, will be happy to give every aſſiſtance in its power, to any perſon who may be deſirous of improving his breed of cattle, ſheep, &c. or of trying any uſeful experiment in huſbandry.

A INTRO-

INTRODUCTION.

GREAT Britain had long availed herſelf of her naturally fortunate poſition for commerce, which, encouraged by every means that the wiſdom of the legiſlature could deviſe, had been carried to an extent hitherto unequalled in the univerſe; and the induſtry of her inhabitants, aſſiſted by the foſtering hand of government, had brought many branches of manufactures to the higheſt ſtate of perfection; while the cultivation of her fields was left to the feeble exertions of the huſbandman, aided only by bounties on the raiſing of flax, and on the exportation of corn. It was reſerved for our days to behold a board, compoſed of the firſt Officers of the State, and of perſons equally reſpectable for high rank, diſtinguiſhed abilities, and independent fortune, eſtabliſhed to fix the attention of a great nation on the improvement of its ſoil, and to direct and aſſiſt in the ancient and moſt important of all arts, that of providing food for man.

The eyes of all Europe are already turned to this board, which, it is believed, is the firſt national eſtabliſhment, on a great ſcale, that ever exiſted in any country in favour of agriculture, and the advantages of which now appear ſo obvious that it is a matter of aſtoniſhment that ſuch an inſtitution was not ſooner erected.

At the time of the landing of the Romans on this iſland, corn was raiſed only on the coaſts, and even ſo late as the expedition of Severus, tillage was altogether unknown in thoſe parts which lay between his wall and that of Antoninus. But, under the dominion of that wonderful people, it ſoon came to be conſidered as the granary of the Weſtern Empire, and immenſe quantities of corn were annually exported for the uſe of the armies in Germany and in Gaul; and in the year 359, when there happened to be an extraordinary demand upon the continent, Julian ordered eight hundred ſhips to be

built larger than the common barks, and ſent them to Britain for grain. It is not poſſible to aſcertain the capacity of theſe veſſels, but it is probable, from privileges that were granted to thoſe who built ſhips above a certain ſize, that many of them would contain more than ten thouſand Roman modia, or upwards of three hundred Engliſh quarters.

Conſidering the change of manners it is not to be expected that the days of ancient Rome will be revived, when the moſt diſtinguiſhed citizens united the culture of the liberal arts with the tillage of their fields, and when the higheſt Officers of the State, having left the helm of government, did not diſdain to lay hold of the ſtilts of the plough. When, however, we contemplate the rapid progreſs which agriculture made in this iſland in the rude days of that ſuperſtitious people, who were governed in their time of ſowing by the age of the Moon, and the ſetting of the Pleiades, what may not be hoped for from the ſpirit of an enlightened nation fully excited and directed to its proper objects by the newly eſtabliſhed Board, under whoſe auſpices, were but the ravages of war to ceaſe for a century, Great Britain would attain to an incredible degree of wealth and cultivation? Enjoying a ſoil of great original fertility, and a climate favourable to the growth of moſt branches of the vegetable kingdom, its craggy mountains and verdant hills would be clothed with lofty timber or bleat with innumerable flocks, its meadows would rear the ſtately bullock, and its fruitful plains would wave with the richeſt crops of every grain that the influence of a Britiſh ſun can pour into the lap of plenty. The perſevering hand of induſtry would even teach trees and plants to flouriſh that at preſent are ſickly and droop, and can hardly exiſt through the ſeverity of an inclement winter. In a few centuries more others might be cultivated with ſucceſs, which, if directly tranſplanted to our climate, would immediately periſh. When peaches were firſt raiſed in Italy all the world was ſurpriſed that they could be brought to perfection out of Perſia. What would Cæſar and Diodorus Siculus ſay, were they told that the moſt eſteemed wines of Europe are produced in Gaul, Germany, and Hungary, where they imagined that vines would not grow? Or Strabo, if he knew that figs can be propagated in the north of Scotland? Or Lucullus, that cherries will grow almoſt any where, which in his time were known only in Ceraſus, and the milder climates of Europe?

Trees and plants, being altogether paſſive, accommodate themſelves very ſlowly to a change of climate; but the idea has been already * thrown out, that even thoſe of the torrid zone *may* be made to flouriſh in northern regions, *may* become gradually inured to the climate, that the climate itſelf *may* be changed for the better, and that ſome thouſands of years hence, repoſing under their own olive tree, future Britons *may* quaff their own wine, or ſip their own tea ſweetened with the juice of their own ſugar cane.

* No apology is due to the author of J. W. Spencer's travels for the freedom that is here uſed with them.

PRELIMINARY OBSERVATIONS

BY

THE BISHOP OF LANDAFF.

EXTENT OF THE COUNTY.

THE county of Weſtmoreland was ſurveyed in 1768, and a map of it, upon a ſcale of an inch to a mile, was engraved by Thomas Jeffreys geographer to his Majeſty, in 1770. It appears, from this map, that the greateſt breadth of the county, from its ſouthern boundary, near Burton, to its northern one, near Penrith in Cumberland, is thirty-two miles, and that its greateſt length, from eaſt to weſt, is forty miles.

I covered this map very exactly with fine writing paper, except the Eſtuary near Millthrope and Windermere lake; I then cut out a ſlip of the paper of an inch in breadth, and of ten inches in length, and weighed it accurately; from another part of the ſame paper I cut another ſlip, two inches in breadth and five in length, and found it to be preciſely of the ſame weight as the firſt ſlip; and hence, as the ſurfaces of the two ſlips were equal, we may collect that the paper was of an uniform thickneſs. The area of each of theſe ſlips was ten ſquare inches, and conſequently covered a ſpace on the map equal to ten ſquare miles; I then weighed the whole of the paper which

had covered the map, and by comparing the weight of the whole with the weight of what had covered ten ſquare miles, I found the number of ſquare miles in the whole to be 844; now there are 640 ſtatute acres in a ſquare mile, and conſequently 540,160 acres in the whole county.

I meaſured this map in the ordinary way by reſolving it into triangles, and found its area to be equal to 636 ſquare miles, or 407,040 ſtatute acres.

Templeman, in his ſurvey of the globe, makes the area of the county of Weſtmoreland equal to 633 ſquare miles, and conſequently, according to him, it contains 405,120 acres. The medium of theſe three different eſtimates (though I am moſt diſpoſed to rely on the firſt) is 450,772.

Profeſſor *Zimmerman*, in his political ſurvey of Europe, eſtimates England and Wales at 54,112 ſquare miles, amounting to 34,631,680 ſtatute acres. *Templeman*, in the work above-mentioned, ſays that England and Wales contain 49,450 ſquare miles, or 31,648,000 ſtatute acres; the mean of theſe two gives 33,139,840 ſtatute acres for the whole ſurface of England and Wales, and hence the county of Weſtmoreland may, in ſuperficial content be eſteemed a ſeventy-third part of England and Wales.

Proportion between the Cultivated and Waſte Lands in the County.

In 1689, when a bounty was firſt granted on the exportation of corn, one third part of the land in England and Wales, or about eleven millions of acres, was ſuppoſed to lie in uncultivated commons; if this was then a juſt proportion betwen the cultivated and waſte parts of the kingdom, we may ſafely conclude, that much above one third part of Weſtmoreland was then waſte land; as it is evident, from a bare view of the county, that few, if any counties in England have, in proportion to their whole extent, ſo much uncultivated land as this has. The many incloſures which have taken place, during the laſt hundred years, have leſſened in ſome degree, the waſte land of the whole kingdom; but no incloſures of much conſequence have taken place in Weſtmoreland. Inſtead of one third, I am diſpoſed to conjecture that three fourth parts of Weſtmoreland conſiſt of uncultivated land: I will ſtate my reaſons for this conjecture, being as ſenſible as any perſon can be of the objections which may be made to it; but in a mat-

ter where there are no *data* to proceed upon, a conjectural argument may be allowed.

It appears, by the return made by the overſeers of the poor to the Houſe of Commons, that the ſum raiſed by aſſeſſment in all the pariſhes and townſhips of the county, at a medium of three years, ending in 1785, amounted to L. 5,757. The town of Kendall, including Kirkland, is the only large town in the county, it is found, by an actual ſurvey made this year, to contain 8089 inhabitants, having experienced an increaſe of 518 inhabitants ſince the year 1784; of the preſent number 143, or about one fifty-ſixth part of the whole, are *paupers* living in the workhouſe. The poor rates of this town amounted, according to the ſame return, to L. 1125 a-year; this ſum being ſubducted from the annual amount of all the poor rates in the county, leaves L. 4632 for the ſum raiſed from all the eſtates in the county, excluſive of Kendall. From particular inquiries in various pariſhes, I am of opinion, that the poor rates do not, in this county, exceed a ſhilling in the pound, in the actual rental of all the lands; but a ſhilling in the pound (ſuppoſing the ſum annually raiſed to be L. 4632), will give a rental of L. 92,640. All the land in Weſtmoreland, which can either be ploughed or mown for hay, is worth at leaſt a rent of a pound a ſtatute acre on an average; and hence it may be inferred, that 100,000 acres of ſuch land, or leſs than one-fourth part of the whole, would yield a rental equal to, if not exceeding, the rental of the county. The high incloſed rough paſtures are let from one to five ſhillings an acre. But whether the uncultivated land in Weſtmoreland be equal to three fourths, or one half of the whole, it cannot be queſtioned, that there is ſo much of it, as to render its improvement a matter not only of individual concern, but of national importance.

Improvement of Waſte Lands.

The uncultivated lands in Weſtmoreland are of various ſorts, with reſpect to ſoil and ſituation, and capable of different ſorts of improvement. Some of them conſiſt of extenſive commons in low ſituations, and are of an excellent ſoil; theſe might be improved by incloſures, without any riſk of loſs by the undertaking. Others conſtitute extenſive mountainous diſtricts, called by the natives *fells* and *moors*; the ſoil of theſe is, generally ſpeaking, an

hazel mould. In its natural ſtate, it produces little elſe than a coarſe benty graſs, heath, and fern; or, in the language of the country, ling and brackens. Many of theſe fells are, in their preſent ſtate, of ſo little value, that the liberty of keeping ten ſheep on them may be hired for ſixpence a-year. Suppoſing ſix acres to be ſufficient for the maintenance of ten ſheep, the rent of ſuch land is a penny an acre; and the price of the fee ſimple of it, at twenty-four years purchaſe, two ſhillings. Whilſt there is an acre of ſuch waſte, improveable land in Great Britain, it may be hoped that, when the legiſlature ſhall turn its attention to the ſubject, no inhabitant of the iſland will be driven, by diſtreſs, to ſeek a ſubſiſtence in Africa or America.

Above forty years ago an experiment was tried in Spain, with reſpect to the cultivation of waſte lands. Several thouſands of poor and vagabond people were ſettled on them at the expence of the government. If this experiment has ſucceeded (which may be eaſily known,) ſo far, as that the land has been made productive, that the ſettlers have been increaſed, and that the government has been reimburſed the whole or a principal part of its expence, it may induce other governments to adopt the ſame or a ſimilar plan. The giving a cottage, and a few acres of land, under a ſmall reſerved rent, and perhaps under other uſeful reſtrictions, to a poor man, is certainly a good way of improving the land. When a man has lands of his own, he and his family will exert, in its cultivation, a quantity of labour which would not otherwiſe be brought into exiſtence. The value of this, otherwiſe non-exiſting labour is, in one reſpect, nothing; it ought not to be reckoned as a part of the expence attending the improvement of the land; and, on that account, many thouſands of acres of land might be brought into cultivation, which would not, in any other way, pay the expence of improvement. The manner of improving moor-land, by paring, burning, liming, &c. is well underſtood by ſome few individuals, and the advantage reſulting from it aſcertained, by what has been recently practiſed in ſome parts of the county on private eſtates.

There are many barren mountains in this county which do not admit improvement by paring and burning, and which are incapable of being profitably converted either into arable or good paſture land: Yet the higheſt and moſt craggy parts, two acres of which do not afford ſuſtenance for ſix months in the year to one ſheep, might, with a great proſpect of ſucceſs, be

planted with larches; I ſay with a great proſpect of ſucceſs, for I do not ſpeak with certainty, not knowing whether there are in Great Britain any plantations of larch made on ſuch expoſed and rocky ſituations as are here ſpoken of: But, on the other hand, it is known, that the larch grows in Italy on higher mountains than any that we have in this iſland; and not only that it grows in Italy, where the climate is leſs ſevere than in Great Britain, but that it grows in the north of Ruſſia, where it is much more ſevere; for at Archangel, in the latitude of 64°, ſhips are built of larch growing in that climate.

It may be of uſe to ſtate the probable profit which would attend planting the land in queſtion with larch. A thouſand acres of this ſort of land might be incloſed with a circular wall ſix feet in height, (where the ſtones can be eaſily gotten, as they may in moſt parts), after the rate of ſix ſhillings an acre, or L. 300 for the whole; five hundred larches, two feet in height, (ſo as to enable them to reſiſt the long graſs,) might be planted on each acre for fourteen ſhillings; hence a plantation of 500,000 larches might be made for L. 1000. Now L. 1000 improved at compound intereſt, at the rate of L. 4 *per cent.* would, in ſixty years, amount to the ſum of L. 10,519; this is the accumulated loſs attending the incloſing and planting 1000 acres of rocky land in ſixty years. The rent of 1000 acres, at one penny an acre, is L. 4 : 3 : 4; a-year; in eight years the larches would be out of all danger from ſheep, ſo that the loſs of rent ought only to be eſtimated for eight years; but L. 4 : 3 : 4, a-year, though improved after the ſame rate of compound intereſt, would not amount to L. 40 in eight years; ſay, however, that it would amount to L. 81, which is allowing more than two pence an acre for the annual rent of the land, then would the whole expence attending the plantation in ſixty years be L. 10,600. I have here ſuppoſed ſheep to be ſhut out of the plantation for eight years; if it ſhould be found, that ſheep will not crop the larch, and from more than one obſervation, I have reaſon to believe they will not, they need not be ſhut out at all; nor, on diſtricts, where nothing but ſheep are depaſtured, need any fence be made. I know the advocates for cloſe planting, inſtead of 500, would require 5000 larches for each acre; I am not convinced of the utility of ſuch cloſe planting, except where it is intended to nurſe up oaks, or other kinds of wood; but if that mode ſhould be adopted, the thinnings, after twenty years growth, would pay the expence of it.

At the expiration of ſixty years, ſuppoſe that only 250 larches remained on each acre, or that one half had periſhed; the probable value of them may be thus eſtimated. From a great many experiments made by myſelf and collected from others, I find the annual increaſe in circumference of the larch, at ſix feet from the ground, to be one inch and one half on an average of ſeveral years; and this inference has been drawn from the actual admeaſurement of larches in different parts of England and Scotland, and of different ages, from ten years old to fifty. On this ſuppoſition, the larches would meaſure, one with another, ninety inches in circumference, at ſix feet from the ground. A larch which meaſures ninety inches, at ſix feet from the ground, would meaſure above ſeventy at twenty feet from the ground; but ſuppoſing ſeventy inches to be the circumference at twenty feet, and the length of the tree to be forty feet, neglecting the remaining top; then will its ſolid content be eighty-five cubic feet, and the value of the tree at nine pence a foot, above three guineas. But as the trees are ſuppoſed to be planted in an high, bleak, barren ſituation, their annual increaſe may not be ſo great as is here ſuppoſed; inſtead of being worth, at ſixty years after planting, three guineas a-piece, admit that they are worth only ten ſhillings each, then would the whole plantation be worth L. 125,000, and deducting the whole expence, L. 10,600, as before eſtimated, there would remain a profit of L. 114,400. The preſent value of L. 114,400 to be received ſixty years hence, is above L. 10,000 (intereſt of money at L. 4 *per cent.*) Ten thouſand pounds at L. 4 *per cent.* purchaſes an income of L. 400 a-year: by planting then, a barren eſtate, of a thouſand acres, is improved from L. 4 : 3 : 4, to L. 400 a-year, reckoning the value of a reverſion as a preſent certainty. Sixty years is a great part of the life of a man; but it ought to be conſidered as nothing in the exiſtence of a nation, or even of a family, which is a little nation. The waſte lands in this and other counties are a public treaſure in the hands of private perſons; all of them ought to be converted into arable, meadow, or paſture land, which are capable of admitting, with profit, that kind of improvement: And ſuch of them as will not pay for that mode of improvement, ought to be covered with wood; the high parts, and eſpecially the ſheltered dells in the high parts, with larch, and the lower with oak, aſh, &c. When a ſpirit of agricultural improvement is fully excited, the individuals to whom ſuch uncultivated

lands belong will be prompted, by an attention to their own intereſt, to forward every judicious plan which may be propoſed for rendering them more uſeful to the proprietors and to the community; their preſent application to the ſummer-maintenance of a few miſerable ſheep ought not to be perſevered in, if any other uſe can be made of them.

COPPICES.

In ſome parts of Weſtmoreland conſiderable portions of land are covered with coppices, conſiſting principally of oak, aſh, alder, birch, and hazel. Theſe underwoods are uſually cut down every ſixteenth year: The uſes to which they are applied are chiefly two—hoops and charcoal. The hoops are ſold in the wood at L. 5 a thouſand; they are generally manufactured in the country, and ſent by ſea to Liverpool; the charcoal is ſent to the iron furnaces in the neighbourhood. The value of a ſtatute acre of coppice-wood, of ſixteen years growth, is variable from L. 10 to L. 15; and if it conſiſts altogether of oak, its price may amount to twenty guineas; L. 6 for the charcoal, and L. 15 for the bark; it being the cuſtom here to peel the bolls, and all the branches of the oak, which are equal to the thickneſs of a man's thumb.

It is an extraordinary thing to ſee any trees left to ſtand for timber in theſe underwoods, the high price of bark is a temptation to cut the whole down. Fine ſaplings, from nine to twelve inches in circumference, at five feet from the ground, and with bark as ſplendid as poliſhed ſilver, are felled by the unfeeling proprietor with as little regret as if they were thorns or briars. Of late, indeed, ſome few owners of underwoods have left ſtandards, and if they conſult their intereſt, the practice will become general. As this is a point denied by many proprietors of coppices, it may be of uſe to explain the principles on which the obſervation is founded.

Suppoſe a ſtatute acre of underwood to be, in the ſpring of 1794, ſixteen years old, and that the whole is then cut down and ſold for L. 14. This ſum will, in ſixty-four years, (reckoning compound intereſt at 4 per cent,) amount to L. 172. In 1810 another fall of underwood, of the ſame value, will be made; the L. 14 then ariſing, improved for forty-eight years, in the ſame way, will produce L. 91. In 1826 another L. 14 will ariſe from an-

other fall of the underwood, this ſum, improved for thirty-two years, will amount to L. 49. In 1842, another fall will produce L. 14, which, in ſixteen years, will become L. 26. And, laſtly, in 1858, or in ſixty-four years from 1794, another fall will produce L. 14. The amount of the value of the five falls, thus eſtimated and improved, will be L. 352. Let us now calculate the profit which would reſult, in the ſame time, from the ſame acre of underwood, if it was managed in a different way. Inſtead of cutting the whole down in 1794, let us ſuppoſe that 150 of the beſt young oaks are left to ſtand for timber; the then value of theſe, at 2d. a tree is 25s. this being ſubducted from L. 14, the value of the whole coppice, leaves L. 12 : 15 : 0. This ſum, improved as before, will amount, in ſixty-four years, to L. 156 (ſhillings and pence in theſe calculations being neglected). The next fall in 1810 ought not to be valued at more than L. 10, as 150 trees, then of thirty-two years growth, will do ſome injury to the underwood; L. 10 in forty-eight years will amount to L. 65. The next fall in 1826 may be valued at L. 8, and at that time ſeventy-five trees ſhould be taken down; theſe trees will then be forty-eight years old and worth 15s. a tree, or L. 56 in the whole, this added to L. 8 the value of the then underwood, makes L. 64, which, in thirty-two years, will produce L. 224. Without eſtimating the underwood in 1842, and in 1858, at any thing, or the value of the paſturage for thirty-two years, at any thing, let us ſuppoſe the ſeventy-five remaining trees to be cut down in 1858, being then eighty years old, and that they would, one with another, be worth L. 4 a-piece, or L. 300 in the whole: The ſum of the profits, thus ariſing, is L. 745, or more than double the other amount.

It is a general opinion in this, and, I believe, in other countries, that it is more profitable to fell oak wood at fifty or ſixty years growth, than to let it ſtand for navy-timber to 80 or 100. According to the price which is now paid for that commodity, either by the Navy-Board or the Eaſt-India Company, I believe the opinion to be founded in truth. The following obſervations contain the reaſons for this belief.

If profit is conſidered, every tree of every kind ought to be cut down and ſold, when the annual increaſe in value of the tree, by its growth, is leſs than the annual intereſt of the money it would ſell for:—this being ad-

mitted, we have only to inquire into the annual increaſe in the value of oaks of different ages.

In the Philoſophical Tranſactions, for 1759, there are ſome uſeful tables reſpecting the growth of trees, by Mr. Marſham; from theſe tables the two following inferences may be drawn.

1. That it is highly profitable to let young thriving oaks, which are not worth above 30s. a tree, continue ſtanding.

2. That it is not profitable to let oaks of 80 or 100 years growth, continue ſtanding.

Three oaks, marked in the tables, No. 8.—11.—12, in April 1743, before they began to ſhoot, contained eleven and one half feet of wood, and were altogether worth, at eighteen pence a foot, bark included, 17 s. and 3 d. The ſame trees, ſixteen years afterwards, contained thirty-four and one half feet, and were worth L. 2 : 11 : 9. Now, if 17 s. and 3 d. had been improved at the rate of 7 *per cent.* at compound intereſt for ſixteen years, it would not have amounted to L. 2 : 11 : 9; and of conſequence the proprietor, by letting ſuch oaks ſtand, improves his property in as high a degree, as if he put out his money to intereſt at near ſeven and a half *per cent.*

Three oaks, No. 2.—3.—5. in 1743, contained 100½ feet of timber, and were worth L. 7 : 10 : 9. The ſame trees, ſixteen years afterwards, contained 132½ feet, and were worth L. 9 : 18 : 6. Now, L. 7 : 10 : 9, the value of the trees in 1743, improved, at the low rate of intereſt, of L. 2 *per cent.* would, in ſixteen years, amount to a ſum exceeding L. 9 : 18 : 6. The proprietor then, by letting ſuch trees ſtand, does not improve his property at the rate of L. 2. *per cent.*

The oak, No. 1. in the third table, was worth L. 1 : 2 : 6 in 1757, it gained in one year one foot, or 1s. 6d. in value; if it had been worth 30s. and had gained one foot, there would have been no profit in letting it ſtand, as the intereſt of 30 s. at 5 *per cent.* would have produced 1 s. 6 d. in the year; and it is for this reaſon that I have fixed upon 30 s. as the value of trees which ſhould be cut down; if they are cut ſooner or later, the proprietor will be a loſer. It muſt not be ſuppoſed, however, that great preciſion can attend this obſervation; ſince particular ſoils, or the greater or leſs thriving condition of the wood, may render it uſeful to cut down trees be-

fore they are worth 30 s. or to let them ſtand a while longer. It ought to be remarked alſo, that large trees ſell for more per foot than ſmall ones do, yet the uſual increaſe of price is not a compenſation to the proprietor for letting his timber ſtand to a great age. This may be made out from the following experiment.

On the 27th October 1792, I meaſured, at ſix feet from the ground, the circumference of a very fine oak of eighty-two years growth from the time of its being planted, and found it to be 107 inches; on the ſame day of the month, in 1793, it meaſured 108 inches. There is not one oak in fifty (at the age of this) which gains an inch in circumference in one year. The length of the boll of this tree was about eighteen feet, it contained about eighty-four feet of timber, and was worth, at 3s. a foot, L. 12: 12. It gained in one year very little more than a foot and one half of timber, or 4s. 6d in value; but the intereſt of L, 12: 12 at L. 4 *per cent.* amounts, in one year, to above twice the value of the increaſe, even of this tree, which is a ſingularly thriving one.

I have been the more particular on this ſubject from a public conſideration. Many men are alarmed leſt our poſterity ſhould experience a ſcarcity of oak timber for the uſe of the navy; and various means of increaſing its quantity have been recommended with great judgment. In addition to theſe means, the making a much greater than the ordinary increaſe of price on timber of a large ſcantling, might be not improperly ſubmitted to the conſideration of thoſe who are concerned in the buſineſs. If the Navy-board would give L. 8 or L. 9 a-load for timber trees containing 100 cubic feet or upwards, inſtead of L. 4 or L. 5, every man in the kingdom would have a reaſonable motive for letting his timber ſtand till it became of a ſize fit for the uſe of the navy; whereas, according to the preſent price, it is every man's intereſt to cut it down ſooner.

In the neighbourhood of Ambleſide there is found a ſtratum of gray limeſtone, which, though it contains a little clay, might be as ſerviceable as the pureſt ſort for agricultural purpoſes; but, unfortunately for the improvement of this part of the county, coal is ſo dear, that very little of this limeſtone is burned. The lime which is uſed in the culture of the lands being either fetched from Kendall, or brought up Windermere lake at

a great expence. As there is great plenty of coppice wood in the diſtrict here ſpoken of, it may be uſeful for the farmers and land-owners to conſider, whether the burning of lime with fagots in a flame-kiln, as is practiſed in Suſſex, may not be a more beneficial application of the underwoods than the converting them into charcoal. Even the ſpray-wood, here called chats, which is too ſmall to be made into charcoal, and which is now ſold for ſixpence a cart, or more generally left on the ground, might be made into fagots, and mixed with wood of a larger ſize, ſo that no part of the coppice would be loſt. In Suſſex they uſe 600 fagots, cut in the winter, and weighing, when dry in the ſpring, thirty-ſix pounds each, for the burning of 480 Winchester buſhels of lime.

PRESENT STATE OF THE COUNTY.

Boundaries, &c.

For Remarks and additional Obſervations.

WESTMORELAND is an inland county, bounded on the north by the biſhopric of Durham and Cumberland, on the weſt by Cumberland and Lancaſhire, on the ſouth by Lancaſhire and Yorkſhire, and by Yorkſhire and Durham on the eaſt. Its extent has been already ſpecified in the biſhop of Landaff's Preliminary Obſervations. The country in general is ſo mountainous and hilly that a great proportion of it muſt ever remain untouched by the plough, and it is conjectured that three fourth parts of it are at this day waſte and uncultivated. Between theſe mountains there are ſeveral very pleaſant and fertile vallies that want only trees and hedge-rows to be truly beautiful. In theſe vallies the ſoil is of various ſorts, but always dry, upon a bottom of ſand, gravel, or limeſtone rock. That upon limeſtone is uniformly eſteemed the beſt. The whole cultivated land of the county is divided by thorn hedges, or ſtone walls, into incloſures, many of which do not contain half an acre; there are a few of eight or ten acres, and in general they may contain from three to five acres.

Rivers. Of the numerous ſtreams that ruſh from the mountains and water the vallies beneath, there are only three that preſerve their names to the ocean. The Eden which ſprings in Mallerſtang, and having received in its courſe the Eamont and the Lowther, and many little rivulets, enters Cumberland, and running the whole length of that county, empties itſelf into the Solway Frith below Carliſle. The Kent riſes in Kentmere, waſhes the vale of Kendall, and loſes itſelf in the Eſtuary near Milthrope, the only ſeaport in the county. The third is the Lon or Lune, which has its ſource in Ravenſtonedale, flows through the vale to which it gives its name till it enters the county of Lancaſter, below Kirkby Lonſdale.

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Climate. The climate of this county, as may be expected from its vicinity to the weſtern ocean, over which the ſouth-weſt winds blow for eight months of the year and bring the exhalations to deſcend in rain on the mountains, is remarkably moiſt. The quantity of rain that falls in the weſt part in a year has been aſcertained by rain-gages kept at Kendall, and on the banks of Windermere. In the wet year 1792 it amounted to eighty-three inches. In ordinary years it amounts to forty-five or fifty inches, the loweſt of which is twenty inches above the medium quantity that falls in Europe. The air, however, is pure and healthful, the winters rather long and ſevere. In the winter 1791—92 thirty-ſix pounds were paid for cutting only a horſe-track through the ſnow upon leſs than ten miles of the road from Shap to Kendall.

I. *LANDS IN TILLAGE.*

A large proportion of the county of Weſtmoreland is poſſeſſed by a yeomanry who occupy ſmall eſtates of their own from ten to fifty pounds a-year, either freehold or held of the lord of the manor by *cuſtomary tenure*, which differs but little, if at all, from that by *copyhold*, or *copy of court roll*. Farms in general are ſo ſmall that it is rare to meet with one of L. 100 a-year of rent, though there are ſome even of L. 200 or L. 250. The mode of farming is very near the ſame throughout the county; and the courſe of crops is often pointed out to the farmer in his leaſe, which is generally for ſeven or nine years, ſometimes only for five or three years, at others for fourteen, and in a few inſtances for twenty-one years. Some principal land-owners grant no leaſes.

Courſe of Crops. When a field of graſs is overgrown with moſs, which commonly happens in ſeven or ten years, it is broken up with the plough in the beginning of March, and ſown about the firſt of April with oats, at the rate of ſeven aud one-half Wincheſter buſhels upon the cuſtomary acre of 6,760 ſquare yards. The crop is reaped about the middle of September, and ſixty buſhels are reckoned a tolerably good return.

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Second Crop. The land is ploughed for the ſecond crop as ſoon after Candlemas as the weather will permit, and eighty or a hundred cart-loads of ſtable-yard dung are laid upon the acre. It is ploughed again in April, and ſown with four buſhels of barley or bigg. The harveſt is earlier than that of the oats, and fifty-four buſhels are reckoned a good crop. Some farmers plough three times for barley, but it is the general practice that is here deſcribed.

Third Crop. After the barley the land is ploughed in April, and eight buſhels of oats per acre are immediately ſown upon it. The harveſt is commonly in September, and the crop is uſually as good as the firſt was.

This is the moſt ordinary ſucceſſion of crops though it is ſometimes broken through by taking two crops of oats before the barley, which, in that caſe, is followed by another of oats. The land is then left to itſelf, and the firſt year it produces a light crop of hay of bad quality. In the third year the crop is at the beſt with regard to both quantity and quality. In ſeven or in ten years it is again moſſed over, and is again ploughed up to undergo a ſimilar treatment.

Exceptions.—*1ſt.* To this general mode of management there are ſeveral exceptions which perhaps it would be improper to omit. From Kirkby Steven to Brough and Appleby, and from that town to Temple Sowerby, the ſoil is a deep ſand, which, by cultivation, becomes more compact and more retentive of moiſture. The fields of graſs moſs-over ſooner or later according to the quality of the ſoil; ſome, where the ſoil is thinneſt, and the ſubjacent ſtratum the pooreſt, it is judged neceſſary to break up after an interval of only four or ſix years. In this part of the county there are particular farms where after the ſecond crop which is oats generally inferior to the firſt, the land is ſummer-fallowed, planted with potatoes, or ſown with turnip, which laſt are given to the wintering ſtock of cattle and ſheep. Dung is always laid upon the fields deſigned for turnips and potatoes, and the remainder upon the fallow, which is likewiſe invariably and always ſucceſsfully limed at the rate of ſeventy-five Wincheſter buſhels per acre. What is ſo fallowed is ſown in the middle of September with

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two and one-half buſhels of rye per acre. The crop is reaped before a year goes round, and thirty buſhels are reckoned a good return. In the month of May graſs-ſeeds are ſown amongſt the rye, but are never covered either by the harrow or the roller. Thoſe fields which were turnips and potatoes are ſown with barley or oats, and graſs-ſeeds, in the following quantities to an acre: eight pounds narrow-leafed red clover ſeed, which is preferred to the common broad-leafed clover becauſe it remains longer in the ground, four pounds white clover, four pounds hop clover, four pounds of rib graſs, and from five to ten buſhels of hay ſeeds ſhaken from the crop of the former year. Theſe conſiſt chiefly of *Bent* graſs, which ſeems to be a ſpecies of rye-graſs, of the great *Poa*, or oat graſs, and *Dark* graſs, or Flanders hay ſeeds. The firſt year, whether it be hayed or paſtured, the crop is far more valuable than that of any natural graſs in the neighbourhood upon ſoil of an equal quality; and the cattle, eſpecially the horſes, uniformly prefer theſe artificial graſſes to thoſe which the land produces of its own accord.

Exception 2*d*. In the immediate neighbourhood of Kendall, where the ſoil is gravelly or ſandy, it is not unuſual to take potatoes for the ſecond crop, and barley for the third; the land is then ſometimes left to itſelf, but for the moſt part the barley is followed by a crop of oats. A great many potatoes are grown and conſumed in the county. The price, at the time of taking them up, is commonly 1s. 4d. per Wincheſter buſhel; in the winter and ſpring it often riſes to 2s. The produce is variable from 250 to 350 Wincheſter buſhels per ſtatute acre. They are cultivated in various ways, but chiefly by the plough. The inhabitants think that potatoes from freſh ground are of the beſt quality, but the product is uſually the greateſt from an oat ſtubble. Sometimes the farmer grows the potatoes at his own riſk; at others he manures the land with 100 cart-loads of dung per cuſtomary acre, ploughs it once, and lets it in this ſtate at 2s. the perch to the manufacturers and labourers of Kendall, who furniſh the plants and the reſt of the labour. The price they pay is high, but reckoning little for the work they beſtow upon it, which is conducive to their health, they

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are often well ſatisfied with their crop which is ſometimes very great, the land being well adapted for the cultivation of this root.

Exception 3*d*. From Millthrope to Burton, and from Burton by Farlton to Kirkby Lonſdale, both the farms and incloſures appear to be ſomewhat larger than in moſt other parts of the county, and it is not quite ſo rare to ſee a few acres of wheat. The land deſigned for this crop is ſummer-fallowed after the firſt or ſecond year from the ley, and is well manured with dung or lime, or with both. It is ſown in September with wheat ſoaked in brine, or waſhed with chamberlye, and dried with lime, at the rate of four buſhels per cuſtomary acre. Forty-five buſhels are reckoned a good crop; and the harveſt may be ten days earlier than it is in the northern parts of the county. If the land is again manured, it is ſown with barley after the wheat; if not manured, it is ſown with oats.

II. *GRASS GROUNDS.*

Hay. Every occupier of land, whether *ſtateſman* or *farmer*, having it in his power to keep any number of cattle, through the months of ſummer, upon *joiſted* fields where they may be kept at a cheap rate, or upon commons where they may be kept almoſt for nothing, it is a principal object with him to provide for them plenty of winter food. Hence his attention is chiefly directed to his crop of hay. It has been already ſtated, that the quantity of land, at preſent under culture, does not exceed one fourth part of the whole county, or 135,000 acres. Had all the arable land in the county been cropped with corn three years out of twelve, there would have been preciſely one fourth part of the whole in tillage; but there are many paſtures of an inferior ſort which are very ſeldom ploughed, and in the high parts there is a much ſmaller proportion of the land in corn than there is in the low parts. In the very extenſive manor of Ravenſtondale, although there are between 2000 and 3000 acres incloſed, there are not ſixty acres of corn; and it is probable that there are not in the county

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more than 20,000 acres under crops of corn in one year. The remaining 115,000 acres are cut for hay, or depaſtured with fattening beaſts and riſing ſtock, or with cows applied to the purpoſes of the dairy. From ſuch an inſpection of the county as was had with a view to the framing of this Report, the proportions uſed for theſe different purpoſes cannot be even gueſſed at; but that for hay is perhaps the moſt conſiderable. A prejudice againſt the artificial graſſes prevails ſo generally over all the county, that it may be almoſt literally ſaid they are never ſown. When the land has produced a few crops of corn, and it is judged that the moſs is quite deſtroyed, it is left to itſelf; and ſuch is the humidity of the climate, and ſo ſtrong is the vegetation of weeds and natural graſſes, that the very firſt crop has, by actual experiment, been found to produce 120 ſtones of hay per acre weighed from the field. As every perſon who expects to have occaſion for hay hires a field to ſupply him with that commodity, it is not often that hay is ſold in large quantities; and it is ſtill ſeldomer that the quantity raiſed upon an acre is exactly aſcertained. When ſold, it may bring from 4d. to 6d. a-ſtone in winter and ſpring, or from 4s. to 5s. a cubic yard. A cubic yard in the lower part of a well-preſſed mow may contain twelve ſtones of hay, and has been known to ſell as high as 7s. or 8s. In the ſouthern and in the eaſtern parts of the county much attention is paid to the making of compoſt dunghills, which, with the dung that remains after manuring for the barley crop, are always laid upon the hay grounds, and are thought conſiderably to retard the progreſs of the moſs. At Kendall and other places where dung can be purchaſed they are manured after the firſt crop, and every third year while they continue in graſs.

Fattening Cattle. The young cattle are kept on the lands of inferior quality in ſummer, and have ſtraw and a little hay given them in winter. When three years old, if barren, they are either fattened in the paſtures, or ſold to the graziers of Yorkſhire and Lancaſhire from L. 5. to L. 8. a-piece; if with calf, from L. 7, 10s. to L. 10.

Ten thouſand Scotch cattle are annually ſold at Broughhill fair in the end of September. Though numbers of

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theſe are caried off by drovers to the ſouth of England, and many are bought by graziers from other counties, great quantities remain in Weſtmoreland. They are wintered on the coarſe paſtures, and in the ſtraw-yard; in May following the young ones are ſent to the commons, and thoſe of an age proper for feeding are put upon the beſt grounds, and are ready for the ſhambles in October.

Heifers are *joiſted* upon tolerably good paſture from 10th May to Michaelmas, at from L. 1, 1s. to L. 1, 7s. a-head. Horſes are grazed among fattening cattle for 3s. 6d. a-week. Young horſes are kept from Michaelmas to 5th March on the inferior kinds of land, and have ſtraw given them in bad weather for 2s. a-week.

Fattening Sheep. Almoſt all the ſheep in the county, except the wedders after the firſt year, are brought from the mountains on the approach of winter, and kept in the incloſed grounds till the month of April. Some graziers ſtock part of their paſtures with wedders, or with ewes and lambs. The mutton and lamb which remain after ſupplying the conſumption at home are ſent to Lancaſter and Liverpool.

Dairy. There are few counties in England, in which there is no great manufacturing town, where more milch cows are kept in proportion to its ſize, and where the produce of the dairy forms a greater part of the profits of the farmer. It may be naturally ſuppoſed that he is particular in the choice of his cows, and that they are remarkable for giving a great quantity of milk. Neither ſuppoſition, however, is founded in truth. The farmer keeps juſt ſuch cows as he has bred, and they by no means yield ſo much milk as would be expected from thoſe of the Dutch, or even the Scotch breed, § upon a paſture of the ſame quality. Farmers in the country generally eſtimate the expence of keeping a milch cow at five pounds a-year, and the produce at eight pounds. Cows

§ The Ayrſhire breed is reckoned the beſt for milch cows in Scotland, particularly in the neighbourhood of Dunlop. The comparative value of all the different breeds, in regard to quantity of milk, &c. the Board of Agriculture propoſes to aſcertain.

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in the country are kept for the ſake of making butter, of which great quantities, of an excellent quality, are ſent yearly to the London market in firkins of 56 lbs net, at from 30s. to 35s. each. In the immediate neighbourhood of Kendall the dairy turns out to better account by ſelling the new milk, which is contracted for all the year at 1¼d a quart, being the ſame price which the London cow-keepers receive. The ſkimmed milk is ſold at one third part of that rate. The ordinary price of a good milch cow may be about ten pounds.

General Economy. Farms in Weſtmoreland are not all employed for theſe different purpoſes in the ſame proportion: nor is the ſame proportion obſerved at all times upon any one farm. The general economy of a hundred acres at a rent of as many pounds may perhaps not differ very widely from the following ſtatement: fifteen acres under crops of barley and oats, thirty-five acres in hay, and the remaining fifty acres in paſture. Ten dairy cows kept on the beſt of this paſture will probably yield twenty firkins of butter.

III. *SHEEP FARMING.*

The breed of ſheep kept on the mountains and commons of Weſtmoreland is either native or a croſs with Scotch rams. No attempt has yet been made to improve either the carcaſe or the fleece. They are horned, dark or gray-faced, thick pelleted, with coarſe, ſtrong, hairy wool. The whole flock upon a farm is herded together, which is different from the practice in thoſe counties where ſheep-farming is thought to be the beſt underſtood.

Wintering. Thoſe ſtore-maſters who have not upon their own farms paſtures ſufficient for the wintering of their young ſheep ſend them to the low grounds from the 1ſt November to 6th April, and pay 2s. a-head for thoſe that return. They are ſo ſubject to the *Black-water* (*Sickneſs*, or *Middling-ill*) that, at an average, ten out of an hundred die before Chriſtmas. After that, being very hardy, they ſeldom die, and never of that diſeaſe.

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Price. The wedders are ſold in October, when four years and a half old, from 9s. to 13s. each; the barren ewes at Lammas, from 8s. to 10s; and the old ewes about 6s. to be wintered in the incloſed grounds, and fattened with their lambs the enſuing ſummer.

Salving. In October, or the beginning of November, the whole flock is ſalved ſo heavily, that a gallon of tar and 16lbs. of butter are expended upon thirty-five ſheep. A man may be hired for this work at 1 s. 8 d. a-day, in which time he will not ſalve above ten or a dozen; or he will undertake to ſalve them at 2 d. a-head. The whole expence is about ſixpence a-piece. It has been repeatedly tried to ſubſtitute tobacco-liquor for the butter and tar, but it is generally imagined that the wool is better for the ſheep having been ſalved. Near Kirby Stephen this operation is performed with oil and tallow, at an expence of 4 d. a-head.

Wool. The wool is worth, on an average of years in time of peace, 5 d. a pound. Part of it is ſold to the manufacturers of Kendall, and part of it to thoſe at Bradford, and other places in Yorkſhire. The ewes are ſaid to bear the beſt wool; and on an average of a flock ſix fleeces weigh a ſtone.

Silverdale Breed. Silverdale, a ſmall diſtrict in the neighbourhood of Millthrope, gives its name to the breed of ſheep in this part of the county. The ſoil is good and on a limeſtone ſtratum, and a branch of the ſea is nearly contiguous to it. They are horned, white-faced, and cloſe-woolled. They are ſaid to be native, and are much ſuperior to the common ſort in regard both to fleece and carcaſe. At the ſale of a farmer's ſtock, in October 1793, the lambs of this breed brought 10 s. 7 d. a-piece, the dinmonds 17 s. 1 d, and the ewes at the age of three years and a half 17 s. 6 d. or 17 s. 8 d. In the townſhips of Burton and Holme, where this breed is kept, five ſheep at an average yield a ſtone of wool, which is worth 8 d. a-pound. At a medium of the whole pariſh of Burton for eight years, from 1772 to 1779 incluſive, it required ſix fleeces to weigh a ſtone.

It is not unuſual for the proprietor to be owner of the ſheep upon the farm. In this caſe, the farmer is to be conſidered as little better than a ſhepherd. The flock is

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valued at the time of his entry, and again at his removal, and the difference between theſe valuations is ſettled in money.

Experiments.—1*ſt.* Twenty Lincolnſhire *Mugg* ewes that had been tupped by a ram of Mr. Bakewell's breed were brought into Weſtmoreland in the month of December 1789, and lambed in February 1790. Theſe *Mugg* ewes were tupped in 1790 by a common Weſtmoreland ram, and the dinmonds produced by this croſs have turned out the beſt ſheep in the county, and weigh from 18 lbs. to 20 lbs. a-quarter, and are thought to be ſuperior to thoſe of the firſt breed.

2*d.* Six of the lambs produced from the tup of Mr. Bakewell's breed and the *Mugg* ewes, were rams. Four of theſe rams were put to ewes of the common breed in the county, and the lambs ſprung from this croſs are much of the ſame ſize as the ordinary breed; but they are broader on the back, and finer in the wool. As the experiment has not yet been long tried, it muſt be left to time to ſhow what the reſult will be.

3*d.* The lambs produced by the Lincolnſhire ewes, and their own lambs of February 1790, are not ſo ſtrong as theſe lambs of 1790, which the ſhepherd is diſpoſed to attribute to a ſcarcity of food in the ſpring rather than to any defect in the breed.

4*th.* Thirty of this breed were left unſalved in 1791; they were in good condition and had no ſcab. Theſe ſame were again left unſalved in 1792, and broke out in ſcab early in 1793. It muſt be remarked that the ſheep at the time of ſalving in 1792 were not in ſuch condition as in 1791; ſo that it does not appear, from this experiment, that there is any neceſſity for ſalving ſheep in good condition.

5*th.* The Lincolnſhire ewes do not carry ſo much wool, nor is it of ſuch a good quality, as when they were brought into the county.

IV. *COMMONS.*

Sheep. The commons in Weſtmoreland are numerous, extenſive, and valuable. They are depaſtured chiefly

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with ſtocks of ſheep, which are managed in a way differing but little from that followed by the ſtore-maſters in the county. In winter all the ſheep are brought down to the incloſed fields, except the wedders, which, being thought able to endure the ſeverity of any ſtorm or fall of ſnow, are left to ſhift for themſelves upon the commons, where they remain till they are four years and a half old, when they are ſold from 9 s. to 13 s. a-head. Having dropped their lambs, the ewes, in the end of April, are ſent back to the commons, where the whole flock paſtures indiſcriminately without an attendant. The lambs are ſometimes ſuffered to wean themſelves; at others, the teats of the ewe are faſtened up to her udder by a plaiſter of coarſe paper and pitch. The value of the wool, and the expence of ſalving, are the ſame with thoſe already mentioned.

Scotch ſheep. Great numbers of Scotch hogs and dinmonds are annually bought at Stagſhawbank fair in the month of June, and grazed on the commons of this county. On ſome they are found to anſwer very badly; on others they thrive well, and are ready for the grazier a year earlier than thoſe of the native breed. There is here a ſtrong prejudice in favour of theſe coarſe-woolled ſheep, which there is every reaſon to believe is ill founded. The ſort now known under the name of the *Cheviot* breed being equally hardy, and much more profitable from the ſuperior value of their fleece.

Black Cattle. In addition to all theſe ſheep, numerous herds of black cattle are likewiſe to be ſeen upon the commons. A few of theſe are of the breed of the county, and the reſt are Scotch, either bought at Brough-hill fair in the end of September and wintered on the low grounds and in the ſtraw-yard, or purchaſed in the ſpring from drovers who fetch them from Galloway and Dumbarton. In autumn, they are either ſold to the ſouth-country drovers, or wintered and fattened in the county.

Ponies. A few ponies of the Scotch breed are reared upon the commons; but the practice not being general, it need not be dilated upon.

Geeſe. Great numbers of geeſe are bred upon the

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commons, and ſold to the Yorkſhire drovers about 1 s. 4 d. a-head.

It is generally underſtood that no perſon ſhall ſend to graze on any common more ſtock than he can winter upon his eſtate or farm, in right of which he has a title to paſturage on that common. This regulation, however, is little attended to, and the commons are almoſt always overſtocked to ſuch a degree that many perſons do not think it worth while to avail themſelves of their right of commonage.

On ſtinted paſtures, it is very ordinary to hire out the right of keeping both cattle and ſheep. A ſummer's graſs for an ox, or for ten ſheep, on Foreſt Hall and Moſely common, is let at 4 s.; on a part of Troutbeck common, where no ſheep are allowed to feed, an ox may be kept for 3 s. 6 d, and on another part of the ſame common, *an ox or ten ſheep may remain all the year for ſixpence.*

V. *RENT.*

The rent of the land varies with its ſituation and fertility. In all ſituations, and of all qualities, it has encreaſed greatly in its value within theſe few years. This may be owing partly to the advance in the price of its productions, and partly to improvements in the art of farming. At Shap, Ambleſide, and in Troutbeck, the beſt hay meadows are let about 50s. the cuſtomary acre. Near towns the rent of the beſt fields to be mowed may be, at a medium, rather above L. 3 per acre. At Kirkby Stephen and Appleby they are not quite ſo valuable. Near Kendall, Burton, and Millthrope, ſome fields are let at L. 4; and at Kirkby Londſdale there are a few which fetch above L. 5. Lands of inferior kinds may be hired for paſture at all varieties of price. In Ravenſtondale, where no tithes are paid, and where the land derives no part of its value from its ſituation, there are between 2000 and 3000 acres incloſed; four fifths of theſe are let from 4s. to 11s. the ſtatute-acre, and the remaining fifth from 20s. to 40s.

In the bottom of Weſtmoreland a farm of an hundred acres of incloſed land may be hired upon leaſe for L. 150.

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A farm containing much coarſe paſture-land may be had for 20s. or 24s. per acre. It is not always known whether theſe coarſe paſtures have been meaſured, they being ſometimes eſtimated by the number of cattle they can maintain.

Beſides the rent the farmer is ſubjected to the payment of tithes, poor's rates, and road money.

VI. *MANURE.*

Dung. To encreaſe the quantity of his manure, and to apply it to the greateſt advantage, are by no means the leaſt important of the various branches of the farmer's avocation. In thoſe parts of Weſtmoreland where ſummer-fallowing is not practiſed, the land deſigned for barley and potatoes always receives the ſtable-yard dung at the rate of 60, 80, or 100 ſingle-horſe cart-loads an acre; and in autumn what remains is laid upon the hay-grounds, at a rate per acre conſiderably leſs.

On ſome few farms in the neighbourhood of Appleby, where ſummer-fallow and crops of turnips may almoſt be ſaid to enter into the general courſe, the dung is carried in winter from the yard to the fields, and laid down in a heap which is turned over two or three times, with a view to accelerate putrefaction. Twenty cart-loads per acre are laid upon the turnip land and the fallow, and its operation is always aſſiſted by the addition of ſeventy-five Wincheſter buſhels of lime. Dung is ſold at Kendall and at Millthrope, for 1s. a cart-load.

Lime. In moſt parts of Weſtmoreland limeſtone is found in inexhauſtible plenty, but coals to burn it muſt be carried from ſuch a diſtance, that its application to the purpoſes of agriculture has not yet become general. When, by the projected canal to Kendall, coals ſhall be brought into the heart of the county, its uſe muſt ſoon become univerſal.

It is ſometimes laid upon the land when it is in tillage, but for the moſt part it is ſpread upon the ſurface of graſs fields; and it has been found to ſweeten ſuch as are coarſe and benty amazingly.

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In whatever way it is applied, and in whatever quantity, varying from 75 to 480 buſhels an acre, it is always attended with wonderful effect. The price at the kilns is 3 d. or 4 d. a Wincheſter buſhel.

Compoſts. Much attention is paid to the making of compoſt dung-hills in many parts of Weſtmoreland. They are moſt commonly ſpread upon graſs, and experience has ſhown, that they at once improve its quality, and check for years the progreſs of the moſs. One hundred cart-loads of earth or rakings of the roads, mud, or rotten leaves, and fifty of dung, carefully mixed with 300 Wincheſter buſhels of lime, are laid upon three acres with great advantage.

Water. The pureſt water has a great portion of earth ſuſpended in it by various impregnations Wherever it is allowed to ſtagnate it depoſites part of this earth, which long experience has ſhown to be a moſt efficacious manure. The watering of land is practiſed on a ſmall ſcale in many parts of Weſtmoreland, and always with great ſucceſs.

VII. *LABOUR.*

Labour is dearer in Weſtmoreland than it is in almoſt any of the counties either to the north or ſouth of it. This probably is owing to the great number of ſmall landholders, or *ſtateſmen* above-mentioned, who doing the work upon their own eſtates, with their own hands and thoſe of their families, are perhaps diſinclined to labour for other people.

Servants by the year. A hynd may be hired by the year at twenty pounds, a houſe, a garden, and a patch of ground to grow potatoes; and an unmarried man at from ten to twelve guineas a-year, and board and waſhing.

By the day. The wages of an ordinary labourer are from 1 s. 4 d. to 1 s. 8 d. a-day; he begins to work between ſix and ſeven, reſts an hour at dinner, and leaves it off between ſix and ſeven in the evening. The labourers on the highway from Shap to Kendall receive

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1 s. 9 d. a-day for nine months in the year, and 1 s. 6 d. a-day for the other three months.

By the month. On the large farms, in the ſeaſons of hay and harveſt, it is not unuſual to hire labourers by the month of four weeks, at the rate of L. 1 : 12 : 6, and victuals. They breakfaſt on milk-pottage and bread and cheeſe, receive a pint of good beer in the forenoon and another in the afternoon; they dine on meat boiled, baked, or roaſted, and potatoes or pudding; ſup on cold meat, and have plenty of common beer to drink through the day. They begin in the morning as ſoon as the corn is dry, reſt none but while at meals, and continue as late as they can ſee to work. Four men may cut, tie, and ſtook a cuſtomary acre in a day, leaving a ſtubble from nine to fourteen inches in length.

Cutting of Corn per acre. When done by the piece, the cutting of an acre by the ſickle, the ſcythe not being uſed in the reaping of any ſort of grain, may coſt 9 s. and if the crop be very heavy, 10 s. or even 10 s. 6 d.

Cutting of Hay per acre. The price of mowing a cuſtomary acre of graſs varies from 2 s. 6 d. to 3 s. 6 d. and a man uſually mows an acre in a day.

Per day. When hired by the day, a mower's wages may vary from 1 s. 4 d. to 1 s. 10 d. and victuals.

Maſon's Wages. Maſons in ſummer have from 2 s. 2 d. to 2 s. 6 d. a-day, or 1 s. 2 d. or 1 s. 6 d. and victuals; and in winter 4 d. or 6 d. leſs. At Millthrope a few are hired all the year at 1 s. 10 d. a-day, wet or dry. When they do their work by the piece, and furniſh every thing, they are paid 2 s. or 2 s. 6 d. a ſquare yard for a wall of two feet in thickneſs built with lime; if materials are furniſhed to their hand, they are paid 8 d. or 10 d. a-yard. Seven yards and a half in length of a dry ſtone wall five feet and a half in height coſt 1 s. 6 d. or 1 s. 8 d. in building.

Carpenters Wages. The wages of a carpenter or common country wright, differ very little from thoſe of a maſon.

Threſher. A farmer's own ſervants generally threſh out the corn. When perſons are hired for this purpoſe, they receive about 1 s. for threſhing a load of ſeven and a half buſhels of oats, and 1 s. 3 d. for that of barley;

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and from 4 d. to 8 d. a-boll of rye, conſiſting of two Winchester buſhels.

Miller. Farmers commonly have their meal made from oats of their own growing. The miller receives 4 d. a-load, for drying the oats. If they are good in quality, a load of ſeven and a half buſhels will yield 176 pounds of meal, beſides paying the miller his toll for grinding, which is gueſſed to be about four *per cent.* Wheat is made into flour for 4 d. a buſhel. Numberleſs ſtreams rendering the precarious aſſiſtance of windmills unneceſſary, there is but one in the county, and it is employed in grinding bark for the tanners at Kendall.

Thatcher. A thatcher receives about 1 s. 4 d. a-day and victuals, or 2 s. 4 d. without victuals.

Slater. Slating is meaſured by the rood of forty-two and one-fourth ſquare yards, and coſts in the workmanſhip 12 s. or 13 s. a rood; in the vicinity of the ſlate quarries, the ſlater will find all materials and labour for 45 s. or 50 s. a rood.

Tailor. A tailor gets in ſome places 10 d. in others 1 s. a-day and board.

Mole-catcher. The mole-hills are carefully ſpread in moſt parts of the county, and the fields are cleared of moles at the rate of 3 d. an acre where they have not been catched before; 2 d. an acre are paid the ſecond year, and a penny or three half-pence yearly thereafter.

Maid-ſervants by the year. In ſome farmers families, where they are hard worked, maid-ſervants receive L. 6 a-year. Their ordinary wages in other families may be about L. 4, 10 s. or perhaps L. 5. When they do not change their ſervice, if ſtrangers in the pariſh, care is taken to vary their wages every ſix months, to prevent them from acquiring a ſettlement, to which they would be entitled were they hired for a-year, or were their wages to continue the ſame for that period.

By the month. In hay-time and harveſt, when hired for a month they get from 16 s. to 24 s. and board.

By the day. When hired by the day in harveſt and hay-time, they receive 8 d. or 10 d. and victuals, or 1 s. 3 d. or 1 s. 6 d. without victuals. At other ſeaſons they are paid with 8 d. 10 d. or 1 s. a-day. Their times of entry, and of leaving off work, their hours of labour and of reſt, are very various.

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VIII. *LIVE STOCK.*

Horſes. As there is but a ſmall portion of the county under crop, the horſes are not numerous, nor has any conſiderable attempt been made to improve the breed of theſe uſeful animals. They are ſmall, not exceeding fourteen hands and a half in height, are ſaid to be hardy, but they are neither ſtrong nor handſome; ſixteen or ſeventeen pounds are reckoned a good price for a horſe at five years old. They are often turned upon the commons in the intervals of labour, which, as the farmer very probably has neither turnips nor fallow, are very frequent in the ſummer months.

Black Cattle. The attention that was formerly paid to the breed of black cattle has rather diminiſhed of late years. They are long-horned, very much reſemble the Lancaſhire breed, and, when kept to a proper age, grow to a great ſize. As a heifer of three years old can be ſold for as much as an ox would fetch at four, it is rare to ſee a bullock of the country breed; but to judge from thoſe of all ages in the paſtures at Lowtherhall, they are excellent feeders, and poſſeſs, in an eminent degree, the very deſirable property of laying the fat upon their backs and other valuable parts. The heifers and barren cows, if well choſen, are confeſſedly good thrivers, and are in great requeſt among the graziers of Yorkſhire and Lancaſhire. Not many years ago there was killed, at Lowtherhall, a bullock of the country breed, that weighed thirty-three ſtone a quarter.

Swine. The ſwine of Weſtmoreland, though not large, are good in their kind. Farmers, butchers, and others who kill ſwine, often diſpoſe of the hams to perſons who make a trade of curing them for ſale. Perhaps there may not be any thing peculiar in the mode of making hams in this county; but it is believed that a detail of the proceſs may be entered here without impropriety.

The hams are firſt rubbed very hard, generally with Bay ſalt; by ſome they are covered cloſe up, by others they are left on a ſtone bench to allow the brine to run off. At the end of five days they are again rubbed as

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hard as they were at firſt, with ſalt of the ſame ſort mixed with rather more than an ounce of ſaltpetre to a ham. Having lain about a week, either on a ſtone-bench, or in hogſheads amongſt the brine, they are hung up by ſome in the chimney amidſt the ſmoke, whether of peats or coals; by others, in places where no ſmoke ever reaches them. If not ſold ſooner they are ſuffered to remain there till the weather becomes warm. They are packed in hogſheads with ſtraw or oat-meal ſeeds, and ſent to London, Lancaſter, and Liverpool, in ſuch quantities as to form one of the principal branches of export from the county.

In 1792, neat hams of 16 or 18 lbs. weight were ſold as high as 5½d. per pound when green; when cured, in 1793, they were ſold at 7½d. a-pound. It has been found by experiment that hams loſe twenty per cent of their weight in the curing.

XI. *IMPLEMENTS OF HUSBANDRY.*

It has long been known what angle the ſail ought to form with the keel to make the ſhip move in the water with the greateſt velocity; but, to the preſent day, was reſerved the diſcovery of the angles which the component parts of the plough ought to form with one another, and with the line of draught, in order that that inſtrument might meet with the leaſt poſſible reſiſtance in the performance of its operation. Agriculture cannot but advance with haſty ſtrides when the principles of philoſophy and the powers of mechaniſm are directed to its improvement.

Ploughs. The ploughs of Weſtmoreland are light, and, although not neatly conſtructed, they are perhaps not ill ſuited to the ſoil they are deſtined to cultivate; ſome of them have a wheel at the extremity of the beam, which, it is imagined, ſerves to keep the furrow of an equal depth. They are drawn moſt commonly by two, but ſometimes by three horſes. The turnwriſt plough is about to be introduced into the county, and it will be of great ſervice

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in ploughing the ſides of the hills, which are very numerous and ſteep in the arable lands.

Carts. The carts are of various deſcriptions and ſizes. Thoſe moſt commonly uſed may be fifty-two inches in length, thirty-ſix in breadth, and fourteen and one half inches in depth, containing leſs than ſixteen cubic feet. They are mounted in ſome places upon clog-wheels, and have two-thirds of their length before the axle which is of wood. There is ſcarcely a farming waggon to be met with in the county; it being a general opinion that four horſes in four ſeparate carts will draw a greater weight than if they were yoked together in a waggon.

The winnowing machines, which are here very common, and the harrows, are both of the ordinary kinds. The drill huſbandry being yet in its infancy there are few inſtruments for hoeing or drilling.

X. *WEIGHTS AND MEASURES.*

Great diverſity of weights and meaſures prevails in Weſtmoreland as is the caſe in almoſt every county in Great Britain. The pound conſiſts of 12, 16, 18, 20, or 21 ounces, and the ſtone of 14, 16, or 20 pounds. There is a Wincheſter buſhel, a cuſtomary buſhel equal to three of theſe, a buſhel of two buſhels for the ſale of potatoes near Appleby, and one of two and a half for that of barley. Rye is ſold by the boll of two buſhels, and potatoes by the load of four buſhels and a half heaped, or more generally a bag which holds ſeven and one half buſhels is filled and ſold for a load of potatoes.

There is the ſtatute acre of 4,840 ſquare yards, the cuſtomary acre of 6,760 raiſed from the perch of ſix and one half yards, and a third acre on the borders of Lancaſhire, raiſed from the perch of ſeven yards, containing 7,840.

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XI. *BUILDINGS.*

The lands of the *ſtateſmen* and farmers in this county lie ſo intermixed that their habitations and offices, which are often built together in little ſtraggling villages, muſt of neceſſity be very inconvenient for farming purpoſes; but convenience has been little ſtudied even on thoſe farms whoſe fields lie unmixed. The principal ſtructure is a barn, which, at the ſame time that it has a ſtable and cow-houſe underneath, is frequently large enough to contain the whole crop of both corn and hay, ſo that it is rare to ſee a ſtack of either. Theſe barns are often twenty yards in length, five in width, and five yards in height in the ſide walls. The expence of bringing all the materials from a moderate diſtance, and of building a barn of ſuch dimenſions with a ſlated roof, may be about ſeventy guineas. The houſes are generally covered with ſlates, which are found in ſeveral parts of the county. The ſlates are not nailed on boards, but hung with oak pegs on laths, and plaiſtered in the inſide of the roof. A few houſes are ſtill thatched with wheat ſtraw which is ſold from 1s. 2d. to 1s. 8d. a threave of twenty-four ſheaves.

Stone Walls. The moſt ordinary fences in Weſtmoreland are dry ſtone walls, which vary in height and thickneſs. The expence of building theſe may be 1s. or 1s. 3d. a-rood of ſeven yards in length. At Shap walls five and one half feet high are built for 1s. 6d. or 1s. 8d. a-rood.

XII. *DRAINS.*

The importance of having the land lie dry, and of preventing the water, which in wet weather breaks out upon the declivities of the hills, from chilling the fields below, is well known in Weſtmoreland. The method of draining is faſt improving, and the practice is daily gaining ground. The drains are generally walled in the

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ſides and covered with large ſtones out of the reach of the plough.

XIII. *HIGHWAYS.*

The great roads leading through the county are kept in excellent repair by the ſums collected at the turnpike gates, and when theſe prove inſufficient, by a portion of the labour of the pariſh, or of the pound-rate, which may be levied in its aid.

The parochial roads are made and kept in repair by ſix days labour of the pariſh, and by a rate not exceeding ſixpence in the pound, which the ſurveyors may levy with the conſent of the quarter-ſeſſions; ſome of theſe are tolerably good, and others are annually improving. Many of them ſcarcely exceed the ſmalleſt legal breadth allowed by ſtatute, which is eight feet.

XIV. *PRICE OF PROVISIONS.*

The difference in the price of proviſions in a county ſo ſmall as Weſtmoreland, cannot be very great. They are, however, ſomewhat cheaper in the north and eaſt parts than they are in the ſouth parts, which are more within the reach of the markets of Lancaſter and Liverpool. Beef in Kendall market, in the month of October this year, was ſold at 3d. or 4d. a-pound, and a choice cut at 4½d.; in ſpring it often riſes to 6d. a-pound. Mutton, which in ſpring often riſes to 7d. a-pound, was ſold at 3d. 3½d. or 4d. Pork was ſold at 3d. or 4d. As all the bull calves are carried to market, veal is for the moſt part cheaper than the other kinds of butcher meat, and yet in ſpring it is ſometimes ſold as high as 5d. a pound. Potatoes brought 1s. 4d. a buſhel, or 5s. 6d. or 6s. a load; in ſpring they are often ſold at nearly the double of theſe prices. Oat meal is bought in ſome places by a meaſure of ſixteen quarts, at a price which fluctuates from 1s. 4d. to 2s. 6d.; in others by a peck of 20 quarts, which in ſummer 1793 was worth 3s. Butter

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was ſold from 7d. to 9d. a-pound; in winter the price ſeldom riſes above 11d.; a ſtone of 16lbs. of 20 ounces coſt 11s. 6d. and a firkin of 56lbs. neat, from 30s. to 35s. Cheeſe in the country coſt 3d. a-pound, and new milk 1d. a-quart, which in Kendall is contracted for all the year at 1½d.

A turkey coſts 3s. 4s. or 5s. according to its ſize; a gooſe 1s. 6d. or 2s. or when ſold by weight 3d. a-pound; a hen from 7d. to 10d. and a chicken from 4d. to 8d. Eggs fluctuate in their price from 2½d. to 6d. or even to 9d. a-dozen. Ducks are ſold from 1s. 4d. to 2s. a-pair, teal at 4d. a piece, woodcocks at 4s. or 5s. a brace, and pigeons from 4s. to 6s. a dozen.

Salmon catched in the Lune is ſold from 4d. to 8d. a-pound; that which is brought from Carliſle from 3d. to 1s. 2d. Char are ſold about 7s. a dozen, trouts at 4d. a-pound, muſſels at 2d. or 3d. a quart, flounders from 1d. to 6d. a piece, eels at 2d. a pound, and rabbits, without the ſkins, at 1s. the pair. Honey in the comb coſts 1s. a pound.

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II. MISCELLANEOUS OBSERVATIONS.

I. IT is not unuſual to hear people exclaim againſt the encreaſe of luxury, and the alteration that has taken place in the mode of living in their time. The labourer lives as well now as the farmer did forty or fifty years ago; the farmer as well as the man of ſmall landed property; and ſo on: and is this in any reſpect to be regretted, or is it not much better for them all? But perſons generally cry out moſt loudly againſt the rank immediately beneath them, without recollecting that their own mode has been changed in nearly the ſame proportion as the one which they are ſo ready to condemn *.

Fifty years ago the price of butcher-meat at Martinmas was from 1½d. to 2d. a-pound in Burton market, and eighty beaſts were ſometimes ſlaughtered in a day, and bought to be ſalted for winter-proviſions. From that time, except a few at Chriſtmas and at Eaſter, no cattle were killed there till they were fattened upon the paſtures in ſummer. Farmers, in thoſe days, ſeldom eat any butcher-meat; they lived on bread and butter, and what other little matters the farm afforded. Now labourers generally breakfaſt on that very ancient food pottage, with the help of a little cheeſe and bread; they dine on butcher-meat and potatoes, or pudding; and ſup on potatoes, or pottage, or bread and cheeſe.

The bread generally eaten in the county is made from oat-meal. Water and oat-meal are kneaded together into a paſte without any leaven; this paſte is rolled into a circular cake of about twenty inches in diameter, and is placed upon a thin flat plate of iron called a *girgle*, under which a fire is put, and the cake is baked, goes by the name of *clap*-bread, and is to be ſeen at almoſt every table in the county. This very particular deſcription of

* Spencer's Travels.

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baking cakes may appear too minute, or altogether unneceſſary, and it owes its place here to the requeſt of ſome perſons of rank who wiſhed to ſee it recorded ſomewhere. The meal is moſtly ground to ſuch a degree of fineneſs that a meaſure of ſixteen quarts will weigh ſixteen pounds. Farmers, labourers, and manufacturers uſually have fifteen cakes made from ſixteen pounds of meal, and as many baked in a day as will ſerve their families for a month. Such of the gentry as eat this ſort of bread, moſt of them now eating bread made from wheat, have it baked much more frequently, and alſo much thinner. A labouring man will eat ſixteen pounds of meal made into bread in a fortnight; the price of ſixteen pounds of meal is variable from 1s. 6d. to 2s. 6d; the medium is 2s. which gives 1s. a-week for each labourer for bread; his cottage and his fuel coſt at leaſt as much more. His wages for three quarters of a-year are 9s. a-week, and 8s. a-week for the other quarter; but making allowance for broken days 8s. a-week may be conſidered as the full amount of the price of his labour; and indeed a good labourer may be hired by the year at that rate. Hence there will remain 6s. a-week from the labour of the man for the remainder of his own ſuſtenance, the ſuſtenance of his family, and the cloathing of them all.

II. It might be uſeful to know what proportion of the lands in the county is poſſeſſed by that numerous and reſpectable Yeomanry already mentioned as occupying ſmall eſtates of their own from L. 10, or L. 20, to L. 50 a-year. Theſe men, in contradiſtinction to farmers or thoſe who hire the land they occupy are uſually denominated *ſtateſmen*. They live poorly, and labour hard, and ſome of them, particularly in the vicinity of Kendall, in the intervals of labour from agricultural avocations, buſy themſelves in weaving ſtuffs for the manufacturers of that town. The conſciouſneſs of their independence renders them impatient of oppreſſion or inſult, but they are gentle and obliging when treated by their ſuperiors with kindneſs and reſpect. This claſs of men is daily decreaſing. The turn-pike roads have brought the manners of the capital to this extremity of the kingdom. The ſimplicity of ancient times is gone. Finer clothes, better dwellings, and more expenſive viands are now ſought

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after by all. This change of manners, combined with other circumſtances which have taken place within the laſt forty years, has compelled many a *ſtateſman* to ſell his property, and reduced him to the neceſſity of working as a labourer in thoſe fields which perhaps he and his anceſtors had for many generations cultivated as their own. It is difficult to contemplate this change without regret, but conſidering the matter on the ſcale of national utility, it may be queſtioned whether the agriculture of the county will not be improved as the landed property of it becomes leſs divided.

III. It is painful to one who has in his compoſition the ſmalleſt ſpark of knight-errantry to behold the beautiful ſervant maids of this county toiling in the ſevere labours of the field. They drive the harrows, or the ploughs, when they are drawn by three horſes; nay it is not uncommon to ſee ſweating at the dung-cart, a girl, whole elegant features, and delicate nicely-proportioned limbs ſeemingly but ill accord with ſuch rough employment.

A judgment of the refinement and civilization of a people has been often formed from their treatment of the fair ſex, and in this reſpect France was formerly held up to the world as a model. Unfortunately the manners of nations are too often painted by thoſe who have been converſant only with perſons in what may be called high life; but were it allowable to apply this rule even to France, and to look for ſpecimens into the lower orders of ſociety, and it is there ſurely that the moſt faithful repreſentatives of national character or manners are to be met with, it would be found that the women, even in the boaſted days of her monarchy, were doomed to the ſevereſt labour, to load the dung-cart, to ſaw the wood, to threſh the corn.

The common people of both ſexes, wear, eſpecially in the winter ſeaſon, inſtead of ſhoes, *cloggs*, which differ from ſhoes in this, that the bottom part is made of wood. The wood is generally either birch, alder, or ſycamore; it is about an inch in thickneſs, and a rim of iron is nailed round the bottom of it. A pair of *cloggs* coſts 3 s. 6 d; they keep the feet warm and dry, and, with good care, will laſt a twelvemonth.

III. HINTS FOR IMPROVEMENTS.

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I. *ARABLE LANDS.*

Clover. IN moſt counties of England the land is ſown with graſs ſeeds, and left to lie for ſome years with a view to refreſh and enable it to bear crops of corn; but in Weſtmoreland it is ploughed and ſown with corn in order to prepare it for graſs. When it hath been cropped for three years, and it is judged that the ſoil is ſufficiently reduced, and that the moſs is quite deſtroyed, the land is left to itſelf to graſs over. The firſt crop of hay is never either weighty or good in quality; the ſecond is generally very ſuperior in both theſe reſpects to the firſt, and ſo favourable are the climate and the ſoil to the growth of graſs, that the third crop is often ſo abundant as to be let for two or three pounds *per* acre, and of a quality ſo excellent that in ſeveral places cattle are fattened upon it in winter for the markets of Lancaſter and Liverpool. But even theſe beſt crops are far inferior in point of value to thoſe that would be produced by the ſame fields, were their natural aptitude to grow graſs directed to the production of clover and rye-graſs. The prejudice that prevails almoſt univerſally in Weſtmoreland againſt theſe artificial plants is a great obſtacle to the improvement of the huſbandry of the county, and muſt be overcome before the arable lands can be brought to that degree of cultivation of which they are ſuſceptible.

It is ſaid that hay made of clover and rye-graſs is much coarſer than that which is made of the natural graſſes; and that theſe artificial plants giving place to the natural ones, periſh at the end of two or three years, and therefore ought never to be ſown at all.

The opinion is conceived to be ill founded which holds that hay made of ſown graſſes is bad in quality; long experience and continued practice having ſhown

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that horſes are very fond of ſuch hay, and that when even fed upon it alone they are able to do a great deal of hard work. It can hardly be ſeriouſly aſſerted that hay made of the traſh produced ſpontaneouſly by the land the two firſt years after it has been cropped with corn is better than hay made of clover and rye-graſs. The artificial graſſes ſeldom or never periſh at once at the end of either the ſecond or third year: they diſappear gradually, making room for the natural herbage to occupy their place, which it is imagined it would be found upon trial to do with much more profit to the farmer than would have accrued to him by managing his lands in the ordinary way; for the ſuperior value of the hay the firſt two years would far more than reimburſe him for the expence of the graſs ſeeds, and he might ſtill have his favourite natural hay after theſe had died entirely out.

This is ſtated upon the ſuppoſition that the field was to be allowed to lie eight or ten years in graſs, as is the cuſtom at preſent. If it were to be broken up at the end of the firſt or ſecond year it would be found in good condition for bearing a crop of corn, the roots of clover, it is well known, being a great improver of the ſoil: but this way of cropping the lands will enter with more propriety into that part where an alteration of the preſent courſe will be ſuggeſted.

In the year 1792 Mr. Smith at Henridding in the pariſh of Burton ſowed a cloſe containing exactly two acres and a half Lancaſhire meaſure, with 48 lbs. of red clover ſeed amongſt a crop of barley for which the land had been ſlightly manured after fallow wheat. This field is in Lancaſhire, but being ſituated within an hundred yards of the county of Weſtmoreland it may be mentioned here without impropriety, and it is ſelected merely becauſe the particulars reſpecting it are better known to the writer of this Report than thoſe in regard to any field of clover in the county that was the object of his ſurvey. It was mown in the month of July 1793 and it then yielded a crop of twenty two ſingle-horſe cart-loads of hay. It was mown a ſecond time in September and produced eighteen of the ſame cart-loads. It was depaſtured with nine ſheep from the time the laſt crop was carried off till the beginning of November, and the foggage was then tolerably

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good. Let the moſt ſtrenuous advocates for natural graſs ſay whether they ever had a crop ſo valuable!

Where the land is intended to be depaſtured the argument will apply with treble force, and the decided preference given by cattle of all kinds to the green herbage of the artificial, over that of the natural graſs, ought to remove every doubt from the mind even of thoſe who are the moſt ſtrongly prepoſſeſſed in favour of the preſent practice.

In front of Mr. Carus Wilſon's new houſe near Kirkby Lonſdale, there lies a field of ſixteen acres which was ſown with graſs ſeeds amongſt a crop of barley in the year 1792. It was depaſtured in 1793, and maintained *three times* more ſtock than he would have expected it to maintain, had it been left to itſelf in the ordinary way. Farmers, the moſt prejudiced againſt ſown graſſes, ſaw and confeſſed the force of the experiment, and it is not to be doubted, will follow an example which tends ſo materially to promote their intereſt.

The cultivation of clover is perhaps the greateſt improvement in the art of farming which has been diſcovered in modern times, and it is equally matter of regret and of ſurpriſe, that what is at once ſo eaſy and ſo profitable is not yet become univerſal, and it furniſhes a ſtrong inſtance of the difficulty with which old habits and prejudices are rooted out, even when ſelf-intereſt is concerned in their extirpation.

Turnips. The climate and ſoil of the valleys of Weſtmoreland are well ſuited to the cultivation of turnips, which muſt be carried on to a conſiderable extent before the agriculture of the county can be improved in any conſiderable degree. Experience has ſhown that this crop and the mode of huſbandry uſually connected with it, are able to fertilize not only particular farms, but even to improve whole counties. The moſt profitable and the leaſt troubleſome way of diſpoſing of this crop is to fatten ſheep with it. A cuſtomary acre of turnips, if the crop is good, will feed twenty-five ſheep weighing ſixteen pounds a-quarter from 1ſt November to 1ſt April; even ſuppoſing the ſheep made no advance in theſe five months, the very encreaſe of the price of the mutton

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from 4d. to 5½d. or 6d. a-pound, would bring a profit to the farmer as conſiderable as it is eaſily calculated. When to this there is added the value of what they would gain in point of weight, the profit, it is hoped, will appear to be ſo great as to make the deſire to grow turnips irreſiſtible, and quickly to increaſe the quantity an hundred-fold beyond what it is at preſent.

Where the land is very dry the ſheep may be penned upon a ſmall part of the field of turnips, and ſhifted to another as thoſe in the firſt part are eaten up; but if there is a field of graſs near at hand, the ſuperior improvement of the ſheep will pay for the labour of carrying the turnips to be eaten on that field where they will lie dry and clean, and where the turnips will be leſs trampled on and abuſed.

Rotation of Crops. It is the general opinion of farmers in Weſtmoreland that their lands are better ſuited for graſs than for bearing crops of corn, and they are ploughed for three or four years, not with an expectation that the corn will be more profitable than the graſs, but in order to renovate them for graſs, and to deſtroy the moſs which in a few years over-runs all their ley grounds: but there are ſome who are perſuaded, that the neat profits of the three or four years the lands are under crop uſually exceed the profits of any other three or four years while the ſame lands lie in graſs, and they think that the fertility of the land for the production of either graſs or corn would be injured by ploughing for a longer term, or after ſhorter intervals of reſt.

Whether the lands under the preſent ſyſtem are moſt profitable to the farmer when they are in corn or in graſs it is not neceſſary now to enquire, becauſe, with all due deference to the general practice and opinion of a whole county, it is preſumed that a mode of huſbandry and a ſucceſſion of crops may be pointed out, which upon trial would be found far more profitable than thoſe at preſent followed.

The uniting what may be called the Clover and the Turnip Huſbandry is the beſt method hitherto diſcovered of keeping dry lands in a ſtate of continual fertility, and for this the light and friable ſoil of the vallies of Weſt-

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moreland is well calculated. Inſtead of the common rotation of oats, barley, and oats again, and then leaving the land to graſs-over of itſelf, the following courſe of crops might be introduced with advantage both to the public and the individual. When an old cloſe of good land is broke up it ſhould be ſown with oats, as is done at preſent; after the oats it ſhould be manured and ſown with turnips in drills thirty inches aſunder ſo as to admit of being horſe-hoed; next with barley or oats, and always with graſs ſeeds at the rate of about ſixteen pounds of clover and a Wincheſter buſhel of rye-graſs to the ſtatute acre. If it is intended to paſture the field, the graſs ſeeds can hardly be ſown too thick; if it is to be made into hay, the quantity of ſeeds above-mentioned will be found amply ſufficient. The firſt year's crop of graſs may be mown twice, or after the firſt cutting it may be eaten by fattening cattle; or it may be eaten by ſheep till the beginning of June, ſaved after that and mown in Auguſt, and it will ſtill produce a valuable crop of foggage or after-math. It ſhould be de-paſtured with cattle or ſheep the ſecond year, and the third year likewiſe if it ſhall be thought proper to keep the field ſo long in graſs.

This courſe would preſerve the land in a ſtate of perpetual *health and vigour*, did it not, taking pleaſure in variety, diſlike a too frequent repetition of the ſame crops. After ſome rounds it will be proper to encreaſe the quantity of clover ſeed, and at laſt to bring it ſeldomer into ſucceſſion, for if too often ſown it will be rejected entirely. When this is apprehended the courſe may be varied or lengthened by the introduction of a crop of peaſe, or of drilled beans where the land is deep and moiſt, and wheat after either of theſe, or after a clean ſummer-fallow; or by leaving the land ſome years longer in graſs than uſual.

When it ſhall be proved and known that potatoes are a cheap and nouriſhing food for horſes, the demand for that valuable root will become nearly as unbounded as that for turnips is; and even although they exhauſt the land, they may then be introduced into the courſe with much advantage to the farmer.

It is not pretended that the rotation of crops here recommended would ſuit all the arable lands of Weſtmore-

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land, but it is believed that on a very large proportion of them it might be followed with a certainty of ſucceſs. The cold, wet, ſtiff ſoils ſhould be ſummer-fallowed inſtead of being cropped with turnips; wheat ſhould be ſown after the fallow, and clover, or oats and then clover after the wheat; but it is impoſſible, and were it poſſible it would be improper, in a work of this general nature, to mention how all the varieties of ſoil ſhould be treated, and to deſcend to the minutiæ of ploughing, and ſowing, and ten thouſand little matters that continually demand the farmer's attention, and that are always varying with the weather. In theſe his own ingenuity muſt aſſiſt him, and there all his ingenuity will be neceſſary; for his art, though apparently eaſy, is attended with a thouſand difficulties.

II. *SHEEP FARMING.*

There is room for great improvement in the management of ſheep, as well upon private eſtates as upon the commons, but while theſe laſt continue in their preſent deplorable ſtate it would be in vain to attempt any alteration upon their ſtocks. The caſe however is different with ſtore farms properly ſo called, where the breed or treatment of the ſheep differs very little from that of thoſe upon commons, although there can be no reaſonable doubt of their being well adapted to the keeping a far more profitable ſort than is to be found there at preſent. There is no weight whatever in the argument which has been often uſed againſt the introduction of ſuch a breed from the ſcarcity of food and the coldneſs of the climate, the Britiſh Wool Society having proved that "the fineſt "breeds of Spain or of England will thrive on the wil-"deſt of the Cheviot hills, and that very fine-woolled "breeds may be propagated on the moſt mountainous di-"ſtricts of Scotland." There are numbers of ſheep at the Feroe iſlands, which lie in latitude 63o, and even in Iceland, part of which is beyond the Arctic circle, they are to be found in great abundance on every farm; and there nature ſports in a great ſuperfluity of horns, as if the ſcanty pittance of food which the animal can pick

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up in that bleak and frozen climate were more that ſufficient for the ſupport of the carcaſe and the fleece.

III. *COMMONS.*

The extenſive and valuable commons of Weſtmoreland loudly demand the interpoſition of the legiſlature in a country that boaſts of attention to its intereſt. Some immediate alteration in their ſtate, whether by diviſion or by ſale, cannot be too eagerly purſued, nor too ſtrongly inculcated; nor can it be too generally made known that there are many wealthy people living near ſome of the beſt commons in the county (which is a point of great importance) who do not think it worth while to avail themſelves of their right of paſturage.

Every perſon ſees the neceſſity of ſome material change with regard to the commons, and now that thinking men are turning their attention to this important ſubject, there is no doubt that ſome plan will be fallen upon by which both the public and the individual may reap the full benefit of theſe at preſent dreary waſtes, which are a reproach and diſgrace to the nation. But it cannot be expected that any meaſure however wiſe, or any propoſal however advantageous, can meet with univerſal approbation. It will probably be reprobated by ſome whoſe prejudices it will alarm, and with whoſe little intereſts it may be ſuppoſed to claſh. Till ſomething of greater conſequence be accompliſhed, the reduction of the ſtint, where ſuch is already eſtabliſhed, or the eſtabliſhment of a moderate ſtint upon commons that are perfectly free, ought not to be delayed one hour, for at preſent they are of little, if of any uſe, either to thoſe having a right of commonage or to the nation at large.

A general incloſure-bill for the whole kingdom would ſave the expence of ſeparate applications to parliament for the diviſion of particular commons, but there are many barren and rocky commons that would not be in any wiſe benefited by incloſure; and although the intereſts of a few individuals ought to give way to thoſe of the community, there are numerous inſtances where both would be injured by the operation of ſuch a bill, for it would at once be ruinous to many proprietors to be obliged

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to incloſe each his ſhare, often at an expence greater not only than the value of that ſhare, but in ſome inſtances greater than the value of the fee ſimple of that farm or eſtate in right of which he claims, and prejudicial to the public by interrupting the ſheep-walks upon the mountainous diſtricts which ought to be as free and open as poſſible.

The principal part of the ſtock kept upon the commons conſiſts of ſheep, either of the breed of the county or brought from Scotland. The ewes are wintered in the incloſures, and ſent back to the commons in April; the wedder-hoggrels are always wintered the firſt year on the low grounds at the expence of 2s. a-head, are ſent back to the commons about the ſame time with the ewes, and remain there till they are ſold to the grazier. They may fetch at an average 11s. a-piece; add to this the value of the wool, and 15s. may be about the ſum received for every wedder ſheep that arrives at the age of four years and a half.

Scotch hogs are bought at about 8s. 6d. a-piece, and are kept two years upon the commons when they may be worth 10s. 6d. or 11s; add to this the price of three fleeces of wool, and the whole ſum received for every ſheep delivered may be about 14s; from this ſubtract the original price, two years intereſt of the money, expence of herding for the firſt two months, of thrice waſhing and clipping, of twice ſalving, the value of the riſk of bad payment from the drover or graz., the loſs by ſtraying, and what is often much more conſiderable by death, and ſay what profit remains.

It has been computed that one third of all the ſheep in Weſtmoreland died in 1792. Great calamities are often exaggerated, though no doubt the loſs muſt have been prodigious when it was eſtimated ſo high.

Twenty ſhillings are reckoned an ordinary profit for keeping a Scotch beaſt a-year; ſubtract from this the price of wintering on the low grounds and in the ſtraw yard, intereſt of the coſt, value of the riſk of drovers, loſs by death from fatigue eſtimated at 2½ *per cent*, by diſeaſe, and now and then by one tumbling into a peat-moſs, and ſay what advantage ariſes from this adventure.

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Seven ſhillings and ſixpence are thought an ordinary profit for keeping a little Scotch beaſt on a common from May to October; make the ſame deductions as in the former article, with the exception of the value of the winter's keeping, and ſee how little remains for the rent of the land.

It is not poſſible to place this matter in a more ſtriking point of view than by repeating, that on ſeveral commons the liberty of keeping an ox, or ten ſheep, for a whole year may be hired for *ſixpence.*

Improvement of Commons by Liming. Great portions of many of the commons might be improved at a ſmall expence by the application of lime, which is found in moſt parts of the county, and might be cultivated with the certainty of great advantage. When ploughed great care ought to be taken to adopt a proper ſucceſſion of crops, and to lay the lands down with graſs ſeeds in a very few years; becauſe when exhauſted by over-cropping they are reduced to a worſe ſtate than they were in before, and there is no way yet diſcovered of preparing lands for a repetition of a hearty doſe of lime.

By Paring and Burning. Many of the level moory parts might be converted into arable lands by paring and burning, which are well underſtood by ſeveral perſons in the county, and have been practiſed with more or leſs ſucceſs on ſome private eſtates.

By Planting. There are many thouſands of acres utterly incapable of cultivation by the plough; and, in the paper prefixed, the Biſhop of Landaff has ſhown, in a manner equally ingenious and novel, with what advantage theſe might be covered with wood. It is well known that trees flouriſh with the greateſt vigour on ſoils far more barren, and in climates much colder than that of Weſtmoreland. There are ſtately oaks at Niagara, which, though not in a high latitude, experiences a degree of cold in winter far beyond what is ever felt in this country. On the weſtern coaſt of America, in latitude 61°, the very ſummits of the hills are covered with wood; and there is plenty of trees at Norton's Sound in latitude 64° 55″; and timber for the uſe of ſhips in the Britiſh navy has been cut even at Kamtſchatka, the very end of

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the earth, where the ſoil is barren in the extreme, and covered with ſummer ſnow, and where the winters are rigorous beyond the conception of an inhabitant of Europe.

That Weſtmoreland has been a wooded country is evident from trees found in moſſes on the higheſt hills; and ſtatutes and regulations made long after the conqueſt, ſince which time the climate has not been changed for the worſe, are full of the mention of foreſts, and chaces, and parks, and maſtage, and pannage, and vert, and veniſon, and greenhue, and regarders, and foreſters, and verderors, and an hundred other names and titles reſpecting the preſervation of the woods and the game.

The valuable plantations at Lowther-hall, the ſeat of the Earl of Lonſdale, ſhow how well calculated the ſoil and climate of Weſtmoreland ſtill are for the growth of timber, which it cannot be queſtioned would thrive over all the county as well now as it did five hundred years ago. The profits of planting are ſo diſtant, and ſo few perſons, looking eighty or an hundred years beyond the preſent day, are willing to ſacrifice a paultry intereſt for the ſake of a remote poſterity, that perhaps it may be neceſſary for Government to encourage by premiums what in the end would turn out ſo greatly to the advantage of the community. Theſe might be diſtributed with much propriety by the Board of Agriculture, whoſe income ſeems to be far too moderate for the ſupport of ſo important an eſtabliſhment, the objects of whoſe ſuperintendance are innumerable, and the field of whoſe operations is extenſive as the iſland itſelf.

To the north of Shap lies a very extenſive common called the Scars, where, between two and three thouſand acres of level white land, in a ſtate of nature, offend the eye of every traveller and cry aloud for improvement, the means of which it contains in immenſe quantities of limeſtone upon its very ſurface. It is more that twenty years ſince an act of parliament was obtained for a diviſion of this common, and that it has not been carried into execution is the more to be regreted, as a large portion of it in the opinion of very judicious perſons in the neighbourhood, might be eaſily made as valuable as the little

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cloſes of Shap, which are let from 30 s. to 40 s. an acre.

On the ſouth of Shap lies another common called the Fells, which is, in general, incapable of cultivation by the plough, but it is not ill ſuited to the maintenance of ſheep, and the remains of the celebrated *Shap thorn*, near the road to Orton, ſhow that plantations would ſucceed even on thoſe places of it which are moſt expoſed.

Near the mouth of the river Kent there is a marſh of conſiderable extent, common to Haverſham and Millthrope, and, like all the other commons in Weſtmoreland, greatly overſtocked. It would not be difficult to bank off the ſea from this marſh, and to convert it into corn-fields; but if this were thought not adviſeable, its value might be inſtantly more than doubled by the eſtabliſhment of a moderate ſtint, or ſtill farther increaſed by a diviſion.

Part of Croſby common might be eaſily converted into arable and good paſture land, and two clumps of trees of a conſiderable ſize prove that its worſt parts might be planted with ſucceſs.

From Croſby and Meaburn, a dry level common extends to within three miles of Appleby. It is covered with heath, and is capable of various modes of improvement.

The commons of Knock, Newbigging, Kirkby-Thore, and Marton, lie contiguous, and form a tract of ſeveral thouſands of acres, dry, ſoft, and improveable. A great part of theſe is covered with ſtrong brackens, and is ſuperior in quality to the ſoil of many farms in the neighbourhood, and well ſuited to the cultivation of turnips and clover.

This ſpecimen of the commons in Weſtmoreland will, it is hoped, be deemed ſufficient; for it would be tedious and painful to enumerate them all. It is difficult to behold the deſolate ſtate in which they lie without ſurpriſe at the nation having ſo long delayed taking meaſures for their improvement. The waſtes and commons in this county, and throughout England in general, have been elegantly called a public treaſure in the hands of private perſons: it is to be hoped that the time is not very diſtant when this important treaſure ſhall be opened, and its contents ſhall prove equally beneficial to the individual, and to the public at large.

For Remarks and additional Obſervations.

It is impoſſible to look forward without emotion to that day when theſe neglected waſtes ſhall have received that degree of improvement of which they are ſuſceptible; when they ſhall wave with valuable crops of corn, bleat with profitable flocks, or be clothed with ſtately timber; and when there may be ſeen in every corner the induſtrious huſbandman at once enriching himſelf and advantaging the community in a manner the moſt ſubſtantial.

Contemplating the matter in this view, who but muſt exclaim what a noble field for exertion! What a ſource of national wealth yet in ſtore! "More certain than "the profits of commerce, more permanent than thoſe "manufactures."

CONCLUSION.

Such are the reflections and obſervations that occurred in a Survey of the ſtate of the ſtock and huſbandry in the county of Weſtmoreland, made in the months of October and November 1793, at the requeſt of the newly eſtabliſhed Board of Agriculture. What ſucceſs has attended the attempt to place this important matter in a juſt light, others will judge; but it will be doing no more than juſtice to admit, that no pains have been ſpared in the execution of this taſk, which others might have performed with more ability, but not with greater alacrity or zeal.

It is impoſſible to conclude this Report without mentioning to the Board the very flattering manner in which the perſon commiſſioned by them to make this Survey was received by all ranks and deſcriptions of perſons in the county of Weſtmoreland. Every poſſible aid was given by the two reſpectable Members of the Board reſident in the county. The other individuals who aſſiſted him are too numerous to be diſcriminated; but the writer of this paper will ever remember their very polite attention with gratitude, and his ſhort reſidence in that part of the kingdom, with peculiar feelings of pleaſure and reſpect.

What gratitude is due to HIM, who firſt called the attention of the nation to its moſt important intereſts, and whoſe unremitted efforts are directed to promote the good of his country? How well does He deſerve, and what a ſure road has He choſen to immortal fame, that will ſurvive the ravages of time, and ſmile at the fleeting celebrity of martial atchievements?

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